



## APPRAISAL BULLETIN

Volume XXV

© by ROY WENZLICK & CO., 1956

Number 47

*Real Estate Economists, Appraisers and Counselors*

### MEASURE OF DAMAGES TO LAND BECAUSE OF LOSS OF ACCESS

**F**REQUENTLY in recent years there have been wide discrepancies in valuations made by various appraisers on the damaging effects of the taking of access rights along a highway. Under the present highway plans, thousands of miles of access will be taken from the owners throughout the United States. Highway departments will call on appraisers to evaluate the damages resulting from the taking. Many other appraisers will be called on by the owners to also provide such valuations.

There are probably more good reasons for vast differences in valuations because of the taking of access rights than in the ordinary valuation of entire properties. Access rights are very intangible. To one property owner these rights may be extremely valuable, while to another, these rights may be practically valueless. Seldom is any publicity given to the numerous cases where the appraisal for the State is higher than the appraisal for the individual owner. On the other hand, a considerable amount of bad publicity is given when the appraiser for the State concludes a value substantially below the valuation made by the appraiser for the property owner.

In the past, practically all real estate fronting along a highway enjoyed complete freedom of access. In urbanized areas the restriction of access was first practiced. Generally, by local ordinances, access to properties was limited to an access drive and to this driveway width. Later on, in rural sections along the highway, similar limitations to access were invoked. A few years ago the highway departments of our country realized the value of freeways and advocated their construction for two primary purposes: first, greater safety, and second, greater time saving because of the absence of cross traffic.

The construction of these superhighways is of great general benefit. Unfortunately, highways are expensive to construct, and the rights-of-way upon which these highways are built are also a matter of great expense. Because of these high costs, States have attempted to utilize existing highways as much as possible in order to avoid wasting the present constructed rights-of-way. The cost of installing service roads along limited access highways is expensive and unwarranted except in urbanized areas.

Under the laws, in many of the States, an owner is entitled to damages amounting to, first, the value of the land taken, and second, any consequential damages

to the remainder. Some of these damages might be offset by benefits. The laws relating to offsetting damages vary. The general practice in appraising damages is to estimate the value prior to the taking, which is commonly referred to as the "before taking" value of the property, and the market value of the property after the taking. The difference in value, or the loss in market value, is construed to be the damages to be suffered by the owner because of the taking. Some highway plans may limit future points of access but permit existing access to remain; others may restrict private entry to the highway altogether, permitting entry only from public side roads. The former plan is relatively inexpensive, while the latter practically approaches the cost of the right-of-way for an absolute freeway.

In this bulletin we will not discuss the value of the land included in the right-of-way, nor the valuation of any improvements that might be contained in the right-of-way area, as the valuation of those items is relatively simple. However, some of the consequential damages, or the damages to the remainder, are often problematical and difficult to conclude.

Some of the consequential damages that might be considered may be the loss of future residential, commercial, or industrial potentialities that would utilize the highway frontage; the loss of the use of the right-of-way, resulting in circuity of travel; the reduction of the size of the land holdings that may make future operations more costly; the creation of odd-shaped tracts; and changes in drainage courses. There are many other consequential damages, but these are probably the most frequent ones experienced. The loss of future residential, commercial or industrial potentialities is fairly easily understood. However, some of the other items of damage require explanation. By loss of use of the right-of-way area we generally refer to the practice that many farmers assume in using the right-of-way as a turn-around area for their farming implements. By circuity of travel we mean that the route that must be followed by the property owner in order to drive to market may be substantially increased. Furthermore, because of a limited access highway, that would bisect a farm, it is possible that it would take the farmer an unreasonable length of time to reach the cut-off portion of the farm because he may not cross the road along the highway. In this instance the damage might be minimized by installing underpasses joining the two sections of the farm for the farmer's use and for his livestock. This is an expensive solution, however, and the State might find it cheaper to purchase the odd-shaped remainder. The same bisecting highway may separate the main farm portion from that part upon which the farm improvements are located. Under such circumstances it is possible that the farm buildings may become an overimprovement for the available remaining land. Consequently, the farm improvements should be depreciated accordingly, as an item of functional obsolescence.

We have been employed by several States to evaluate properties that will suffer damages because of the taking of access. We have made numerous appraisals for individual property owners also involved in such condemnation action. As a general rule, most appraisers can agree fairly closely on the value before taking.

The wide discrepancy in value appears on the valuation predicated on the portion remaining. Too often appraisers have a tendency to arbitrarily reduce the unit value of remaining land. In many cases, particularly in more remote areas, the land will actually increase in value.

This bulletin will deal primarily with various means employed by this appraiser to justify his appraisal of the extent of the damages that will be suffered by the owner of a property along a rural section of the highway because of the taking of access rights only. Too often appraisers for the owners of property along such highway stretches have considered only the sales of small tracts of ground having frontage along the highway. These sales may reflect values ranging from \$20 to \$100 per front foot for service station or motel uses. As a result, the appraisers have considered the entire highway frontage under appraisement to be worth that same value per front foot, despite the fact that the subject property and surrounding property may be primarily agricultural in nature. We believe these appraisers are at fault in making that assumption because it is unreasonable to suppose that the entire frontage along the rural section of the highway could be developed entirely with motels, service stations, and restaurants serving the tourist trade.

The subject of highest and best use must be analyzed. It may be true that a portion of the farm under appraisement could be used for service station purposes, but the entire frontage cannot be considered to have the same highest and best use. That is one of the reasons that we prefer adding to that term, "and most likely use." By adding this we preclude applying the value of service station sites to the entire highway frontage. We would like to point out that highways carry a given amount of traffic and, as a result, create a demand for a given amount of gasoline, and a given amount of motel business. The addition of more service stations and more motels divides the business more thinly. The economic law of diminishing returns plays a large part in the development of these highway businesses. We have seen the excellent business of many service stations decline because of increased competition. The business has decreased to a point that not one of the stations is making a fair return on its investments and efforts. A few years ago it was almost an impossibility to secure motel lodgings on a summer evening after 7 p. m. Today the shortage has been considerably alleviated. This has been due to the tremendous number of motels that have been constructed in the past few years. It is true, however, that the better motels offering lodgings, at a reasonable rate, are generally the first occupied, and it is the older and poorer grade motel that is vacant late at night. It is our opinion that the rate of motel construction will continue during the next few years until a point is reached when vacancies, even in desirable motels, become alarming.

A method of estimating the value of highway frontage, having commercial potentialities in close-in areas that are currently in the transition stage from farming to a higher use, is to check sales of property along the highway that sold for commercial or industrial purposes. Then instead of applying these values to the entire frontage, which would be unrealistic because of the great supply of such land,

the appraiser would discount this value based on his estimate of the time that would be necessary to dispose of that land at that price. In order to do this, the appraiser must carefully analyze the area and estimate the demand and supply for such frontage in order to make an intelligent estimate of the period necessary to dispose of the entire frontage for its future highest and best use. This future value then must be discounted to find its present value.

The discounting process may be handled in either of two ways. First, the appraiser may decide that the frontage should be retained in its entirety for a period of 10 years, in order to secure a premium value because of the assemblage factor and the possibility in value enhancement. If this premise is assumed, he would then discount his estimate of the future value by the application of a reversionary factor. The second option would be on the premise that the land would be disposed of over a period of years in a piecemeal fashion. On this basis, he could then arbitrarily divide its total future value by the number of years he has estimated that it would take to dispose of the entire frontage, in order to find the average income that may reasonably be expected annually during that period of time. He could then appropriately process that income stream in order to find its present worth. The difference between this present worth value, of the front acreage, and the value of the rear acreage, would represent the loss in value because of the taking of the access. We would like to emphasize that this would not be a proper application if a service road furnishing access were included in the highway plan. Studies in California and Texas have clearly shown that areas served by the limited access highways, or freeways, have greater enhancement in value than land in areas not so served.

Another means for estimating the potential loss in value, because of the elimination of commercial or industrial potentialities of frontage in agricultural or rural areas, is to measure the length of a stretch of highway that has similar characteristics to the land being appraised. Generally this stretch of highway may be between the outer fringe limits of two towns. Along that section of road we compute the amount of highway frontage that is used for commercial purposes and attempt to find recent sales of land along that stretch that may give us a base value for such commercial land. This base value is then multiplied by the frontage of the commercial land along that portion of highway to give a total value of the present commercial uses of the stretch. This total value is then divided by the total frontage along the highway in order to get a reasonable estimate of the value of the commercial potentialities of the farm land along the highway. It must be remembered, however, that one mile of highway distance contains two miles of highway frontage because of frontage along both sides of the highway. It is this value of the commercial potentialities that may be ascribed to each foot of frontage of land used agriculturally because of the loss of access. Before applying this factor, however, the appraiser should first analyze the commercial uses along the highway. If many of these uses were recent innovations, it would indicate that the current demand for such use is good. Under those circumstances the appraiser, perhaps, would use a higher unit front foot rate. On the other hand, if all of the uses were old and some vacancy of commercial properties ex-



isted, the appraiser would reduce this unit rate. Again the appraiser must exercise judgment in applying any premise.

An example of the application of this theory is shown below.

A  $1/8$  section farm containing 80 acres and having a highway frontage of 1,320 feet and a depth of 2,640 feet will lose its access to the highway. No land is being taken; only its highway access is being affected. The property and the improvements will still have access to an all-weather county road along the rear line of the farm. The farm is situated approximately midway between two rural communities.

In order to estimate the damages due to the loss of highway access, the distance between the fringes of the two towns was measured by car and found to be 6.6 miles. Therefore, along this stretch of road there are 13.2 miles or 69,696 feet of frontage. While this test run was being made, the appraiser took specific notes of "For sale" signs and new commercial structures along the route. At the same time, he tabulated the estimated frontage contained in each of the commercial parcels along the highway. He found ten commercial properties which had a total frontage of 1,010 feet. He found three recent sales of land that averaged \$40 per front foot for commercial purposes and an offer of a 2-acre site at \$2,000 per acre. Applying the \$40-per-front-foot factor to the 1,010 feet of commercial frontage resulted in a figure of \$40,400 as the value of the total commercial frontage as of that date. Dividing that value by the 69,696 feet frontage resulted in an average value per front foot for the commercial potentialities as of that date of approximately 58¢. Since the recent commercial activity along the stretch was considered average by the appraiser, he multiplied this front foot valuation by the 1,320 feet frontage along the highway, contained in the subject property, which resulted in a potential damage of \$765 because of the loss of access which would preclude commercial development along the highway.

If, on the other hand, the owner were permitted to retain one or two access drives, or if the property were at an intersection of a road that had access to the highway, the owner might gain a monopolistic premium because of his proximity to access and the fact that no new access drives will be permitted.

The loss of the use which farmers have made of the right-of-way as a turn-around area for their agricultural implements could be valued by figuring that the farmer using public domain for turn-around purposes would have the equivalent of from 15 to 25 feet additional effective depth along the frontage. This would result in the possibility of cultivation completely to his front property line. The average turn-around area amounts to approximately 20 feet. Since practically all limited-access highways are fenced, the farmer must allow an additional 20 feet of his own land for turn-around purposes. This 20-foot strip along the highway frontage then becomes nonproductive land as far as the farmer is concerned. Consequently, the taking of access to the highway right-of-way is equivalent to the reduction of the size of the farm by 20 feet along the highway frontage. There-

fore, in order to apply this premise it is merely necessary to multiply the highway frontage by 20 feet to get the number of square feet of land that will lose productivity, and divide by 43,560 square feet in order to get the acreage content. If farm land in this area is selling for \$100 per acre, apply the average farm value to the acreage affected, in order to estimate the damages.

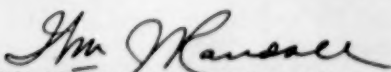
This process may be used to measure the loss in value resulting from the loss of the highway right-of-way that was formerly used in conjunction with the farm operations. This premise should not be applied if the farm is fenced along the highway. We would like to point out at this time that under some circumstances the two processes outlined above may be combined as a measure of damage when the property has commercial or industrial potentialities as well as an existing agricultural use.

We have found in our studies of land values, in the fringe sections of metropolitan areas, that small tracts of ground sold for commercial purposes along a highway on a front foot basis equivalent to approximately one-fiftieth of the average farm acreage value. If large tracts of land in this fringe area sell for \$1,000 per acre, acre tracts and smaller sell for approximately \$20 per front foot. This would mean that the valuation of a front acre, which we consider 200 feet of frontage with an average depth of 217 feet, would be \$4,000. These small tracts generally reflect greater value for several reasons. First, the small tracts fronting on the highway are generally the choicest sites, either for residential or for commercial purposes. Second, the demand is generally great for small tracts, while the supply is relatively limited because most farmers, or speculators, owning the tracts prefer to keep the land intact, and sell off only choice portions if they may secure a premium. In evaluating land in rural areas we have found that the greater the highway frontage in relationship to the depth of the farm, the higher the unit land value. In fact, when the improvements are disregarded, large strips of land fronting on the highway sell for approximately twice the average acreage value for the entire farm, and, in turn, parcels of one acre and smaller sold off from the previously mentioned frontage, again sell for another 100% premium. If an 80-acre farm with 1,320 feet of highway frontage had an average value of \$200 per acre, the value of the 1,320 feet of frontage 217 feet deep would be \$400 per front acre, while a single acre of that frontage would generally be worth approximately \$800 an acre, or \$4 per front foot. We would like to point out that this is a very general rule of thumb resulting from very general studies, and cannot be relied upon to fit more than an average number of cases.

On this basis, in order to measure the damages caused by the loss of access, an appraiser must first assume that the loss of access will merely reduce the front acreage value to a rear acreage value. If we use the problem that we outlined earlier in this report, the subject property has 1,320 feet of highway frontage. On the basis of 200 feet frontage per front acre, the property would contain 6.6 front acres. It is this area that is primarily affected. If the average price per acre for the farm were \$200 and the entire frontage were worth \$400 per front

acre, a loss in value of \$200 per acre would result. The application of this loss to the 6.6 front acres results in damages of \$1,320.

The methods described in this bulletin for estimating damages can show a considerable amount of variation. They are methods we have used under different circumstances. Without a doubt, there are other approaches that are just as logical. However, these are given in order to be of some assistance to appraisers that are approaching this difficult problem. The first method is best employed in an area that may be classified as a fringe area. Such an area is in the transition from primarily agricultural or rural uses to urban uses. We believe that the second premise more accurately represents losses in value suffered by land in areas where the distance between cities or towns is not too great. The third premise probably can best be applied in definitely rural or agricultural sections of the country, where farm land along the highway is not fenced. Combinations of the second and third methods may be used under appropriate circumstances. The last method can best be applied in areas slightly beyond the fringe areas of the larger metropolitan areas. We would like to emphasize that these are some of the means that might be used to measure the damages. No formula or method will fit every case, nor may they be used as a substitute for the appraiser's judgment as appraising is not an exact science.

  
WILLIAM J. RANDALL, M. A. I., A. S. R. E. C.

